SEXUALLY TRANSMITTED DISEASES
MANUAL FOR PHYSICIANS

Despite advances in medical technology, the incidence of sexually transmitted diseases continues to increase in most parts of the world. Effective control of these diseases begins with their appropriate diagnosis, treatment, follow-up and contact tracing.

This manual has been prepared to provide up-to-date information not only on the disease entities, their diagnosis and management, but also on the services which we make available to you.

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Produced by Sexually Transmitted Disease Control
Alberta Social Services and Community
Health

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SEXUALLY TRANSMITTED DISEASE CONTROL

STD Control offers a comprehensive program for the control of sexually transmitted diseases in Alberta.

The services provided include:

1. Free clinics which offer diagnosis and management of patients with sexually transmitted diseases.

2. Consultation and referral services on all sexually transmitted diseases, with reference to case records as required.

3. Centralized control program, with contact tracing for specified infections conducted throughout the province by clinic based and mobile nurse investigators.

4. Free drug replacement to physicians for treatment of cases of notifiable sexually transmitted diseases.

   Optional payment of physician's fees for patients without Alberta Health Care Commission coverage or those wishing to circumvent the AHCIC billing procedure and case record.

5. Educational resource personnel and audio-visual material available to health care professionals and the public.

6. Maintenance of centralized records, ongoing surveillance for confirmed cases of notifiable diseases and the compilation of epidemiologic data concerning sexually transmitted diseases in Alberta.

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SEXUALLY TRANSMITTED DISEASE CLINICS

Edmonton Clinic

3rd Floor, Executive Building
10105 - 109 Street
Edmonton, Alberta

Telephone: 427-2834

Hours:	Weekdays 8:15 a.m. - 5:00 p.m. except Thursday 9:00 a.m. - 5:00 p.m.
Clinic Physician:	Dr. B. Romanowski
Supervisor:	Miss M. Rafter

Calgary Clinic

#107, 309 - 2nd Avenue S.W.
Calgary, Alberta

Telephone: 261-6562

Hours:	Weekdays 8:15 a.m. - 5:00 p.m. except Thursday 9:00 a.m. - 5:00 p.m.
Clinic Physician	Dr. D. Megran
Supervisor:	Mrs. P. Yates

Fort McMurray

c/o Health Unit
9221 Main Street
Fort McMurray, Alberta

Telephone: 743-3232

Hours:	Variable; phone for hours
Clinic Physician:	Dr. A. Nicholson (MOH)
Supervisor:	Lois Jack

GONORRHEA

I. ETIOLOGY

Neisseria gonorrhoeae: A gram-negative diplococcus, usually intracellular due to phagocytosis by polymorphonuclear leucocytes. This organism demonstrates strict growth requirements and has a predilection for columnar epithelium. The virulence of the organism is enhanced by the presence of pili which allow for attachment to the epithelium.

II. PATHOLOGY

The organism may have multiple sites of infection; most commonly the anterior urethra in the male and the endocervix in the female, with the rectum, oropharynx and conjunctiva being susceptible in both sexes. The incubation period is usually 2 to 5 days but may have extremes of 24 hours to 4 weeks. The clinical forms of gonococcal disease may be asymptomatic, uncomplicated, complicated and disseminated.

A. Asymptomatic

1. Females - up to 80% of infected women will not demonstrate symptoms of endocervical infection

2. Males - a significant proportion (possibly 20% or greater) of infected men will not demonstrate symptoms of urethritis

B. Uncomplicated

1. Anterior urethra: Male

- urethritis develops 2 to 5 days following exposure
- characterized by a thick purulent discharge
- usually accompanied by dysuria and frequency
- urinary meatus may appear swollen and edematous

2. Endocervix: Female

- commonly asymptomatic, but a discharge may be present with or without cervicitis
- urethral involvement may result in frequency and dysuria

3. Oropharynx

- the result of oro-genital contact
- usually asymptomatic but may present as an acute pharyngitis

4. Rectum

- usually asymptomatic but may present with mucous discharge, tenesmus, rectal pain or diarrhea
- in females: the result of either rectal-genital intercourse or contiguous spread of infected vaginal secretions
- in males: the result of rectal-genital intercourse

5. Conjunctiva

- may present as a non-purulent or purulent conjunctivitis
- in newborns: the result of passage through an infected cervix
- in adults: the result of inoculation with infected genital secretions.

C. Complicated

1. Females

Without prompt effective treatment the infection may progress to endometritis, salpingitis and pelvic inflammatory disease. This process is facilitated by menstruation due to cervical dilatation and reflux of menses. Lower abdominal pain following menstruation may be the initial symptom. The presence of an intrauterine device increases the risk for ascending infection.

Bartholinitis is also a common complication.

2. Males

Local spread of infection may progress to prostatitis, epididymitis or orchitis.

D. Disseminated

Disseminated gonococcal infection (DGI) is the result of bacteremia and occurs in approximately 1% of untreated males and 3% of untreated females. Unrecognized asymptomatic infection, menstruation and organism virulence are predisposing factors towards gonococcemia.

The onset is characterized by fever, chills and migratory polyarthritis involving the wrists, hips, knees and ankles. Skin lesions may appear and be either pustular, petechial, hemorrhagic or necrotic. Palms and soles are preferred sites of involvement.

Gonococcal endocarditis and meningitis can occur, although rarely.

E. Pediatric Gonorrhea

With the exception of infections acquired at or during birth, pre-pubertal gonococcal infection is the result of direct contact, usually sexual, with an infected individual. Infection is more frequent in young girls as the vaginal mucosa and vulva are more susceptible to invasion by the gonococcus prior to puberty and they are more frequently the victims of sexual abuse than young boys. In girls, the infection typically presents as an acute purulent vulvo-vaginitis sometimes associated with proctitis.

F. Penicillinase-producing Neisseria gonorrhoeae (PPNG)

Strains of N. gonorrhoeae that produce beta-lactamase or penicillinase are increasing in Canada. To date, most reported cases in Alberta have been the result of acquisition in or importation from endemic areas, particularily South-east Asia. However, this province has recently experienced two outbreaks which although successfully contained did threaten to establish PPNG in our population.

For patients giving a history of residence or travel in an endemic area, initial treatment with spectinomycin should be considered and antibiotic sensitivity requested. As the list of endemic areas, defined as a region in which greater than 5% of the gonorrhea strains are PPNG, continues to increase it is suggested that the physician contact STD Control when dealing with a patient with gonorrhea who has had sexual contact abroad.

III. DIAGNOSIS

The diagnosis of gonorrhea is based on the history, physical examination and laboratory investigations.

A. History/Physical Examination

B. Laboratory Investigations

Whenever possible the diagnosis of gonorrhea must be confirmed by appropriate laboratory testing.

1. Smear

a. Males

A valuable diagnostic tool for males with urethral discharge.

The presence of typical organisms in a Gram or methylene-blue stain provides an immediate diagnosis in 95% of cases.

Method

Specimens are taken with a calcium alginate, cotton or rayon tipped swab inserted 1 to 2 cm into the anterior urethra. The swab is rolled across the slide and air or flame dried. Staining with Gram or methylene-blue stain can be done or the air-dried, unfixed slide may be sent to the laboratory for staining and interpretation.

b. Females

Smears of vaginal/endocervical exudate are not routinely used as they may be misleading unless read by an experienced microbiologist.

2. Culture

The major diagnostic tool for disease confirmation. For males the anterior urethra is the preferred site. Females should have both endocervical and anal cultures obtained.

Method

a. Male Urethra

Specimens should be taken from the anterior urethra with a calcium alginate swab inserted 2 cm and left in place for 10 to 20 seconds. The swab is then placed into appropriate charcoal transport media, left at room temperature and forwarded to the laboratory within 72 hours.

b. Endocervix

The speculum should be moistened with water only, as most lubricants are gonococcocidal. A cotton-tipped swab should be inserted 1 to 2 cm into the cervical os after the mucous plug has been removed, left in place for 20 to 30 seconds to allow for absorption of the organism. The swab is then placed in appropriate charcoal transport media, left at room temperature and forwarded to the laboratory within 72 hours.

Vaginal cultures are not recommended due to the high percentage of false negative results.

c. Anal

The patient is asked to bear down and a dry or saline moistened swab is inserted 2 cm into the anal canal for 10 to 20 seconds. Fecal contamination is not significant but should be avoided if possible. The swab is placed in appropriate charcoal transport media, left at room temperature and forwarded to the laboratory within 72 hours.

d. Pharyngeal

The tonsillar crypts and oropharynx should be swabbed and the specimen placed in appropriate charcoal transport media, left at room temperature and forwarded to the laboratory within 72 hours.

e. Disseminated Gonococcal Infection

Blood cultures for isolation of N. gonorrhoeae as well as specimens of fluid from affected joint(s) and from skin lesions should be submitted if DGI is suspected.

3. Serology

There is no useful serological test available for the diagnosis of acute gonococcal infection.

A screen test for syphilis with both the RPR and MHA-TP requested should be obtained at the initial visit.

IV. MANAGEMENT

A. Treatment

Treatment schedules should be complied with in order to minimize the emergence of resistant strains and ensure adequate treatment. The STAT dose of ampicillin and probenicid effectively eradicates uro-genital gonococcal infections. The addition of a 7 day course of tetracycline offers therapy for NGU/MPC which is often acquired at the same time as gonorrhea.

Tetracycline SHOULD NOT be utilized alone for uro-genital gonorrhea due to concerns relating to patient compliance.

Intramuscular procaine penicillin G with probenecid is necessary for the treatment of pharyngeal and male rectal infections and has the advantage of aborting incubating syphilis.

GONORRHEA TREATMENT SCHEDULE - Page 33.

B. Reporting and Contact Investigation

1. Reporting

Under the Public Health Act, gonorrhea is a notifiable infection and must be reported.

The notification of sexually transmitted disease form is obtained from STD Control.

By law, all information on the notification form is confidential.

2. Contact Information

Reporting of the index case and obtaining information for investigation is the major method used in the control of sexually transmitted diseases.

When treating a confirmed or a suspect case of gonorrhea the patient should be interviewed for contacts and this information forwarded to STD Control on the notification form.

The male patient should be interviewed for all contacts beginning two weeks prior to developing symptoms.

The female patient should be interviewed for all contacts for one month prior to diagnosis. All contacts within this time frame may be sources of infection.

It is very important to obtain usable facts for contact investigations. Ideally, the data for each contact should include the following:

a. name, age, sex

b. address, phone number

c. place of employment, occupation

d. place and date of exposure

e. a good personal description to include physical characteristics and habits may also be useful; such as 'wears glasses', 'was terribly skinny', 'had a sister Mabel' or 'hangs out at the local pub'

It is acknowledged that complete information is often difficult to obtain. However, the more pertinent information indicated may make it possible to locate the contact(s).

3. Investigation Procedures

There are two routes one may follow to carry out the investigation.

a. The physician may choose to locate and treat the contact.

i. contacts to confirmed cases (confirmed by laboratory results)

These contacts should be tested and treated immediately, prior to the receipt of laboratory results and reported as a new case. This is referred to as epidemiologic treatment.

ii. contacts to unconfirmed cases (not confirmed by laboratory results)

If possible, contacts to an individual treated on clinical grounds should be tested. Then await the results of laboratory testing before determining the need for treatment and reporting.

iii. marital and common-law contacts

It is important in these relationships that both partners be treated at the same time in order to prevent re-exposure.

b. The physician may indicate on the notification form that STD Control should carry out the investigation of contacts. (This is done only for confirmed cases.)

Prompt reporting is important to ensure efficient and speedy investigation of contacts. STD Control receives reports from all laboratories in Alberta on positive smears and cultures for Neisseria gonorrhoeae. It is therefore not necessary to await laboratory results before reporting.

4. Re-exposures

Patients who continue to have a positive culture for N. gonorrhoeae following appropriate treatment should be re-interviewed for contacts in an attempt to determine re-exposure or treatment failure.

5. Investigation of Children

When gonorrhea is confirmed or suspected in a child, sexual abuse must be assumed until proven otherwise.

The physician is required by the Child Welfare Act to immediately report the case of suspected child/sexual abuse to the child protection authorities.

When an infection is confirmed this is to be reported on the notification form to STD Control whose responsibility is limited to ensuring that the child's infection has been appropriately treated.

C. Follow-up

Test of cure cultures should be obtained 3 to 5 days following the completion of therapy. All previously confirmed sites should be cultured.

Patient education is important to increase the patient's knowledge of the disease and its mode of transmission. Methods of disease prevention should be discussed with the patient as well. Patient literature is available from STD Control.

HERPES GENITALIS

I. ETIOLOGY

A. Herpes simplex virus Type II: Responsible for 85-90% of genital infections. It belongs to the group of DNA herpetoviruses along with varicella zoster, cytomegalovirus and Ebstein-Barr virus.

B. Herpes simplex virus Type I: Usually responsible for the common cold sore. In approximately 10-15% of cases of genital herpes it may be the infecting organism.

II. PATHOLOGY

Viral transmission occurs during genital-genital or oro-genital contact when vesicles or lesions are present. The disease consists of a primary attack followed by a period of latency with recurrences or reactivation.

A. Primary herpes genitalis

2-21 days following exposure susceptible individuals may develop grouped vesicles on an erythematous base. The appearance of the vesicles may be preceded by localized hyperesthesia lasting a few hours. The vesicles soon rupture forming non-indurated painful ulcers. In moist areas these lesions may coalesce forming chancroid-like patches on the genitalia.

The common location of lesions in the male is the glans penis, prepuce and penile shaft. Females may have involvement of the vulva and vagina but may also be asymptomatic with lesions confined to the cervix.

Regional lymphadenopathy is not uncommon. Constitutional symptoms of malaise, fever and myalgia may accompany the primary attack.

The lesions will heal in 2-3 weeks with little or no scarring if not secondarily infected.

B. Latency

The primary attack may be followed by a period of latency during which the virus locates in the sacral sensory ganglia. Reactivation may be triggered by physical or emotional trauma, sunlight or most usually, by unknown host factors.

C. Recurrent Attacks

Recurrences are clinically similar to the primary attack but tend to be less severe.

Individuals are most infectious during the periods they demonstrate vesicles and ulcers. Asymptomatic viral shedding has been demonstrated in a small percentage of women but the potential for infectivity in these cases is unknown.

D. Complications

Herpes genitalis presents two problems for infected females.

1. Pregnancy

A female acquiring primary herpes genitalis during the first 20 weeks of pregnancy is at increased risk of aborting; primary herpes genitalis acquired after the 20th week may result in premature delivery.

A woman with active genital herpes at term presents a substantial risk to the vaginally born neonate of acquiring disseminated herpes with an attendant fatality rate of 40-60%. The presence of genital herpetic lesions at term is an absolute indication for cesarean section, provided the membranes have not been ruptured for more than 4 hours.

2. Cervical Carcinoma

Although a cause-effect relationship has not been proven, genital herpes is considered a possible risk factor in the development of carcinoma of the cervix. The risk is sufficiently substantial to advise women with herpes or those who are partners of infected males to have Pap smears annually.

III. DIAGNOSIS

The diagnosis of herpes genitalis is based on the history, clinical appearance of the lesions and demonstration of the virus. Swabs of the lesions can be submitted in viral transport media for herpes isolation. Specific viral transport media must be obtained from the laboratory if isolation is to be attempted. Viruses will not survive in and cannot be recovered from charcoal media.

If vesicles or blisters are present, they should be cleansed with sterile saline or water and then broken with a sterile needle; the fluid can then be collected in a capillary tube and submitted for direct Electron Microscopy or alternatively the fluid may be collected on a swab and placed in viral transport media. The specimen should be kept refrigerated and forwarded to the laboratory as soon as possible.

If the vesicles have already broken at the time of the patient's visit, the affected area should be cleansed with normal saline or distilled water and then vigorously swabbed.

Viral serology is of little use in confirming the diagnosis as there is unlikely to be significant change in titres between the acute and convalescent samples.

Syphilis serology, in the form of an RPR and MHA-TP, should be obtained to rule out the possibility of the lesion representing an atypical chancre.

IV. MANAGEMENT

A. Treatment

Currently the only safe effective therapy available is acyclovir. Marketed under the name Zovirax®, this ointment is only useful in treating primary or initial occurrences of genital herpes. Application of this ointment six times a day to the affected area will reduce the time of viral shedding and speed healing of the lesions. Acyclovir has no effect on the frequency of recurrences. It is of limited value in treating recurrent disease and its use is not recommended in this situation.

NOTE: The oral form of acyclovir will be available in Canada very shortly. When this occurs, recommendations for the treatment of herpes will change.

For all occurrences of genital herpes the following palliative measures may be utilized.

1. Advise the patient to keep infected area clean and dry
2. Frequent sitz baths using baking soda or betadine
3. Analgesics and topical anaesthetics
4. Systemic or topical antibiotics: should be prescribed only if lesions become secondarily infected

B. Patient Education

Since the diagnosis of genital herpes carries with it many implications for the social and sexual lifestyle of an individual it is essential to provide basic information to the patient.

Many will react with confusion, fear and emotional upset when told they have herpes. Along with misunderstanding the nature and course of the infection they will often experience serious concern about how to deal with present and future sexual relationships.

Minimally, an explanation of the natural history of genital herpes should be offered to the patient, and as education is one of the available control methods for this disease the patient should be advised of ways for prevention of disease transmission; ie. abstinence while experiencing signs and symptoms or through proper use of condoms. Infected women must be informed of the potential risk during pregnancy and the need for annual Pap smears.

In addition, patient education materials are available or if necessary patients may be directed to the clinic or education office of STD Control (Appendix II, page 48).

NON-GONOCOCCAL URETHRITIS (NGU)
MUCOPURULENT CERVICITIS (MPC)

I. ETIOLOGY

Although the terms non-gonococcal urethritis and mucopurulent cervicitis describe syndromes two etiologic agents have been given particular study. The role of Chlamydia trachomatis has been defined while that of Ureaplasma urealyticum is less clear.

A. Chlamydia trachomatis - serotypes D through K.

Chlamydiae are obligate intracellular parasites which require a host cell and columnar epithelium for replication and survival but like bacteria are susceptible to antibiotics.

In NGU - responsible for 40-80% of cases.
In MPC - isolation correlates highly with findings of mucopurulent cervicitis.

B. Ureaplasma urealyticum (T-strain mycoplasma)

One of two common mycoplasmas that is frequently isolated from the genital tract. Its presence is considered pathogenic only when all other etiologic agents have been ruled out in a symptomatic individual.

In NGU - may be responsible for 20-30% of cases
In MPC - its role, if any, is not understood

C. Others

In NGU - for the remaining 10-20% of cases in which no organism can be isolated, the etiology remains obscure

In MPC - both N. gonorrheae and Herpes simplex virus can produce the condition

II. PATHOLOGY

C. trachomatis has the ability to infect multiple sites in both sexes. The usual incubation period of 7-14 days may extend to 21 days.

A. Males

1. Urethra

- clear, mucoid discharge which may be intermittent
- accompanying symptoms of dysuria and tingling or irritation at the distal urethra (urethral awareness) are frequent

2. Epididymitis
3. Prostatitis
4. Orchitis

} may be the result of ascending infection

5. Reiter's syndrome

- C. trachomatis is responsible for approximately 70% of cases of this clinical tetrad of urethritis (NGU), conjunctivitis, arthritis and mucocutaneous manifestations

B. Females

1. Cervix

- mucopurulent discharge combined with edema, congestion and friability (hypertrophic ecotopy)
- in the majority of cases, women will be asymptomatic and C. trachomatis will be recovered from a normal looking cervix.

2. Urethra

- frequency, urgency and dysuria may occur

3. Pelvic inflammatory disease

- C. trachomatis is the leading cause of cases of non-gonococcal PID

C. Perinatal Infections

Infection with C. trachomatis occurs in a significant percentage of neonates and is the result of passage through an infected cervix.

1. Inclusion conjunctivitis

- usually develops 2 to 25 days after birth
- ranges from asymptomatic infection to acute conjunctivitis with mucopurulent discharge, inflamed edematous conjunctiva and conjunctival follicles

2. Pneumonia of newborn

- gradual onset of 2 to 12 weeks of age
- neonate is afebrile, has an interstitial pulmonary infiltrate and a distinctive cough pattern characterized by a series of closely spaced staccato coughs, each separated by a brief inspiration

III. DIAGNOSIS

A. Males

1. Urethral smear

   - demonstrating greater than 5 leucocytes per high-powered field, but no gram-negative intracellular diplococci

2. Urethral culture

   - culture for N. gonorrhoeae will be negative
   - C. trachomatis will be isolated in 40-80% of cases
   - U.urealyticum will be isolated in a further 20-30% of cases

   Method

   Urethral specimens are collected as described under Gonorrhea Diagnosis, page 6.

B. Females

- endocervical culture will be negative for N. gonorrhoeae
- C. trachomatis will be recovered from a significant percent of both normal looking and symptomatic cervices

Method

Endocervical and urethral specimens should be collected as described for Gonorrhea Diagnosis, page 6, and submitted to the laboratory.

NOTE:
Culturing may be done utilizing the fluorescent monoclonal antibody test (Microtrack), the enzyme immunoassay (Chlamydiazyme) or by obtaining specific refrigerated transport media, available from the laboratory. The directions for inoculation and transport should be strictly adhered to in order to ensure optimum isolation rates.

C. Serology

Serologic tests presently available measure group antigen and therefore are not 'serotype specific' and are of no value in the diagnosis of NGU or MPC.

IV. MANAGEMENT

A. Treatment

Tetracycline is the drug of choice in a dosage of 500 mg qid for 7 days. In the event that the patient is allergic or pregnant, erythromycin 250 mg qid for 14 days may be utilized. Minocycline and doxycycline are also effective forms of therapy.

Treatment failures do occur and prolonged courses of antimicrobial therapy may be required.

U.urealyticum is susceptible to the same antibiotics as C.trachomatis.

CHLAMYDIA TREATMENT SCHEDULE - Page 35.

Treatment should be offered in the following circumstances:

Male
- with urethral discharge ± dysuria with smear demonstrating greater than 5 polymorphonuclear leucocytes per high powered field, but no intracellular diplococci
- culture positive for Chlamydia trachomatis
- contacts of culture positive Chlamydia trachomatis
- contacts to mucopurulent cervicitis

Female
- with mucopurulent cervicitis not due to N. gonorrhoeae or Herpes simplex
- culture positive for Chlamydia trachomatis
- contacts of culture positive Chlamydia trachomatis
- contacts to NGU

B. Reporting and Contact Investigation

1. Reporting

Under the Public Health Act, non-gonococcal urethritis and mucopurulent cervicitis are notifiable infections and must be reported to STD Control on the notification of sexually transmitted disease form.

For the purpose of reporting the following definitions apply.

Non-gonococcal Urethritis

Acute (less than three weeks) onset of urethral discharge ± dysuria in men associated with a urethral smear demonstrating greater than 5 polymorphonuclear leucocytes per high powered field.

Mucopurulent cervicitis

Women with cervicitis not due to N. gonorrhoeae or Herpes simplex and/or sexual contacts to NGU.

NOTE:
The isolation of Chlamydia trachomatis and Ureaplasma urealyticum is not required to notify cases of NGU and MPC, but gonorrhea must be excluded.

2. Contact Investigation

Whenever possible all sexual partners of cases of NGU and MPC should be examined and offered therapy when appropriate.

Contact information should be included on the notification form. Procedures for obtaining and dealing with contact information are detailed on pages 8 and 9 under Gonorrhea Management.

C. Follow-up

Ask patients to return for reassessment at least 7 days following completion of therapy.

SYPHILIS

I. ETIOLOGY

Syphilis is caused by the spirochete, Treponema pallidum. It is a slender cork-screw shaped organism which is actively mobile, does not survive away from the human host, and to date has not been maintained in vitro.

II. PATHOLOGY

T. pallidum is transmitted through direct contact with an infectious lesion. The organism enters the body via minute abrasions in the epithelium, by penetrating intact mucous membranes or possibly through unbroken skin by way of hair follicles. The incubation period ranges from 9-90 days depending upon the size of the inoculum. The disease is systemic from onset and progresses through the infectious stages of primary, secondary and early latent to the non-infectious stages of late latent and tertiary.

A. Primary Syphilis

Approximately 21 days following exposure, the primary chancre develops at the portal of entry. The chancre is classically a painless, indurated ulcerative lesion. There may be regional lymphadenopathy with the nodes being firm and non-tender.

In the male most genital chancres occur on the prepuce, coronal sulcus, glans or frenulum. Male homosexuals may exhibit perianal or rectal chancres.

In the female common sites are the labia and fourchette but the perineum and cervix may also be involved.

In both sexes extragenital and multiple chancres can occur. The primary lesion will heal spontaneously in 1-5 weeks.

B. Secondary Syphilis

The secondary stage follows approximately 6 weeks after the appearance of the primary chancre and is characterized by skin or mucous membrane lesions with generalized lymphadenopathy and often constitutional symptoms suggestive of a flu-like illness.

Secondary syphilis is considered highly infectious due to the multiplicity of lesions. The classical eruption is a papulosquamous non-pruritic symmetrical rash, involving the trunk, palms and soles. However, the rash of secondary syphilis is variable and may masquerade as a variety of dermatological conditions such as psoriasis, pityriasis rosea or fixed drug eruptions. Mucous membrane lesions may be seen in the mouth as 'snail tracks' or mucous patches. Follicular lesions may result in patchy alopecia, giving a moth eaten appearance. In intertriginous areas, particularly the genital and perianal regions, moist papules coalesce to form condylomata lata.

Spontaneous healing of the secondary lesions occurs in 2-4 weeks.

C. Latent Syphilis

A latent stage follows during which there are no clinical signs or symptoms of the disease but the syphilis serology is reactive.

Latent syphilis of less than 2 years duration from the time of exposure is called early latent and is considered infectious as 25% of these patients relapse into the secondary stage. Syphilis of greater than 2 years duration is called late latent.

Absence of signs and symptoms does not mean inactivity of the infecting organism or lack of disease progression. Untreated syphilis may have one of three outcomes. It may:

1. progress to tertiary syphilis
2. remain in the latent stage with only reactive serology
3. terminate in spontaneous cure of the infection

D. Tertiary or Late Syphilis

Three to 30 years after infection, late syphilis may develop characterized by chronic, destructive granulomatous lesions called gumma. There may be various clinical presentations.

1. Late benign syphilis: lesions of skin, bone and viscera

2. Cardiovascular syphilis: lesions of the aorta and heart

3. Neurosyphilis: lesions of the meninges and brain parenchyma

E. Pregnancy and Congenital Syphilis

T. pallidum does not cross the placental barrier until about the 16th week of gestation except where the mother is suffering from infectious syphilis. In this instance the fetus is unlikely to escape infection and the pregnancy may terminate in stillbirth, abortion or an infected neonate.

If untreated syphilis in the mother has reached the non-infectious stage, the fetus is at less risk. Therefore, treatment before the 16th week generally ensures the birth of a normal child.

Retreatment of women during pregnancy is unnecessary, provided that adequate therapy has been given in the past and there is no clinical or serologic evidence of relapse or reinfection.

Although congenital syphilis is uncommon, syphilis serology (RPR and MHA-TP) should be performed at the initial visit and repeated in the third trimester if deemed necessary for all pregnant patients and on all cord bloods. Passive transfer of maternal antibody does occur and neonates should never be diagnosed and treated solely on the basis of a positive cord blood.

III. DIAGNOSIS

The diagnosis of syphilis is based on history, physical examination and laboratory examination.

A. History and Physical Examination

A medical/sexual history should be elicited in addition to the physical examination to determine the presence or absence of symptoms and signs compatible with this diagnosis.

B. Laboratory Investigations

1. Darkfield Microscopy

- used to identify T. pallidum and therefore make a conclusive diagnosis of syphilis
- of greatest value in early primary syphilis when it may be positive 10-20 days before serology becomes reactive
- of value in secondary and early congenital syphilis where the spirochete is present in the multiple lesions

Method

In collecting specimens, the surface of the lesion should be cleansed with normal saline, dried and then gently abraded. Gentle pressure should be maintained upon the lesion until only clear serum exudes. A glass slide is then placed over the lesion to transfer the serum and the slide then examined under the darkfield microscope for the presence of T. pallidum.

2. Immunofluorescent Examination

Where darkfield microscopes are not available, an alternative approach is to collect a specimen as outlined above - allow it to air dry and submit it to the Provincial Laboratory for immunofluorescent staining for T. pallidum.

3. Serology

a. Nontreponemal tests (Screening)

RPR - Rapid Plasma Reagin
VDRL, ART } similar tests but not utilized in Alberta

These are sensitive but non-specific tests which detect the presence of reagin, an antibody complex, 1 to 3 weeks after the appearance of the primary chancre or 4 to 6 weeks after exposure.

The quantitative value of these tests is useful in determining the stage of syphilis as well as the adequacy of treatment. Generally, the higher the RPR titre the more infectious the case is considered. For example, a titre of 1:512 most likely indicates a case of primary or secondary syphilis. It is important to follow the RPR after therapy to ensure adquate treatment. In cases of infectious syphilis titres should decline by a factor of two over six months. eg: 1:128 to 1:32. Titres are not usually affected when treatment occurs in late latent or tertiary syphilis.

False positive reactions may occur but must not be diagnosed as such on the basis of only one serology. A minimum of two serologic tests for syphilis separated by at least two weeks and demonstrating no significant change in titre is necessary to rule out syphilitic infection.

Acute false positive reactions may occur in the course of almost any fever, but especially in viral pneumonia, tuberculosis, infectious mononucleosis and malaria and occasionally in pregnancy. These reactions should revert to negative over a period not exceeding 6 months.

Chronic false positive reactions may persist for years and may be due to systemic lupus erythematosus, rheumatoid arthritis, rheumatic fever, cirrhosis and carcinoma.

b. Treponemal tests (Confirmatory)

MHA-TP - Microhaemagglutination test for T. pallidum
FTA-ABS - Fluorescent treponemal antibody absorption test

These are sensitive, specific tests which detect group treponemal antibody and are therefore reactive in all treponemal diseases.

These tests must be reactive to confirm a diagnosis of syphilis. The FTA-ABS is the first test to become reactive in syphilis, occurring 2 to 4 weeks after exposure. Unless the patient is treated in the primary or secondary stage these tests may remain reactive following treatment.

False positive reactions occur with the non-venereal treponemal diseases - yaws, pinta and bejel, as well as in the presence of macroglobulins or anti-nuclear factor.

FOR ALL 'SUSPECT' CASES BOTH THE RPR AND MHA-TP SHOULD BE REQUESTED.

c. Diagnostic Examples

The following are examples of serological combinations and the most likely diagnosis.

i. RPR - reactive to 1:16 or higher
MHA-TP - reactive
FTA-ABS - reactive

Diagnosis: Infectious syphilis

ii. RPR - reactive to 1:8 or lower
MHA-TP - reactive or weakly reactive
FTA-ABS - reactive

Diagnosis: Syphilis - query previously treated

iii. RPR - non-reactive or weakly reactive
MHA-TP - reactive or weakly reactive
FTA-ABS - reactive

Diagnosis: Syphilis - query previously treated or untreated late stage

iv. RPR - non-reactive or weakly reactive
MHA-TP - reactive or weakly reactive
FTA-ABS - borderline

Diagnosis: Query syphilis - repeat serology in 2 weeks

v. RPR - reactive up to 1:8
MHA-TP - non-reactive
FTA-ABS - non-reactive

Diagnosis: Probable biological false positive - repeat serology in 2 weeks

IV. MANAGEMENT

Prior to establishing a diagnosis of syphilis or initiating therapy it is recommended that the physician should contact STD Control. Extensive records of patients and positive serologies are maintained and a specialist is available for consultation.

A. Treatment

Recommended treatment schedules should be followed as this may avoid the necessity of further therapy at later dates.

The treatment of choice is benzathine penicillin; the dosage will vary according to the stage of the disease. Alternate therapy may be used for the penicillin-allergic patient.

SYPHILIS TREATMENT SCHEDULE - Page 36.

B. Reporting and Contact Investigation

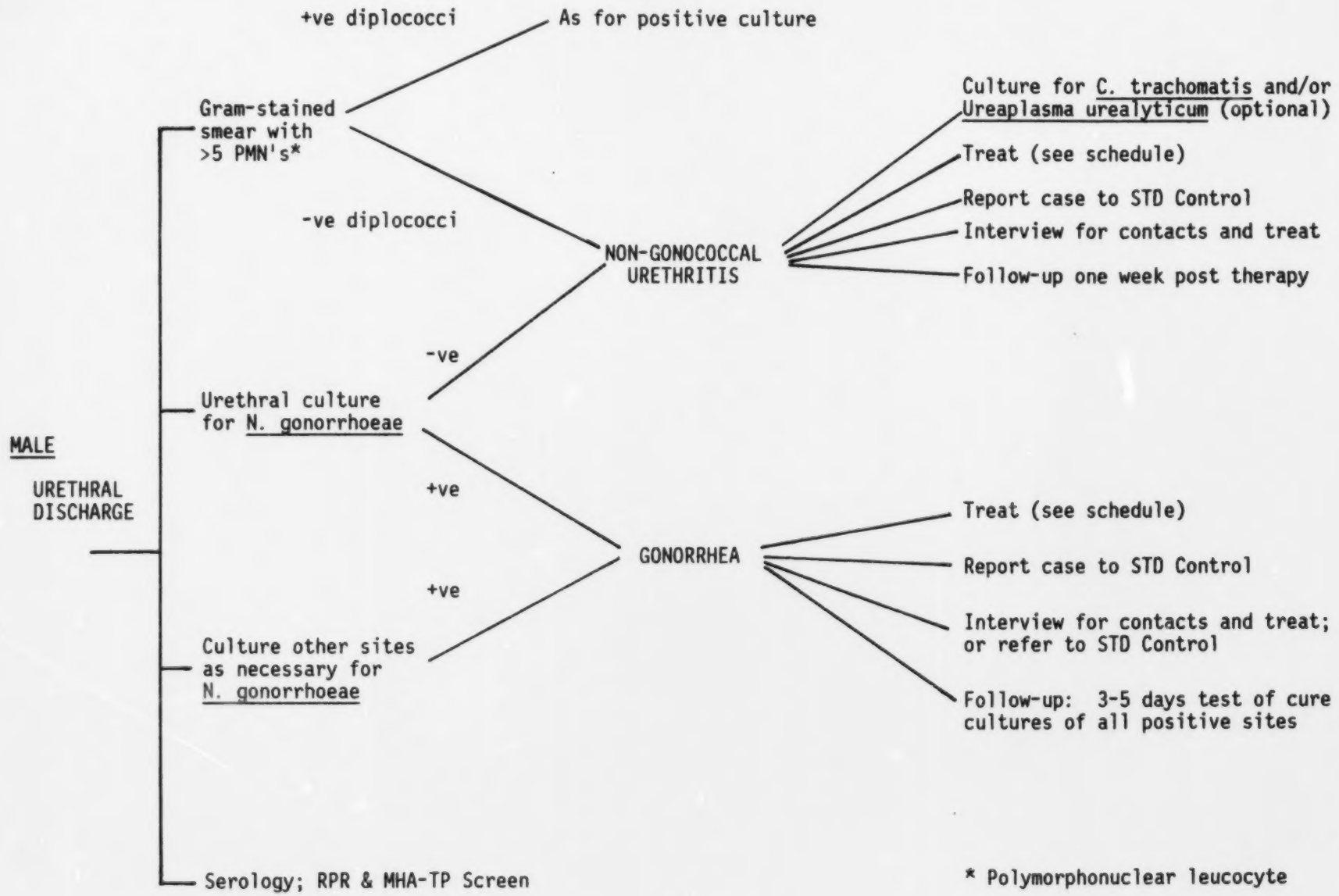
Syphilis must be reported to STD Control on the notification of sexually transmitted disease form.

Contact information must be elicted from the patient, either by the physician or if so indicated, by STD Control nurse investigators. Obtaining contact information is essential in patients with infectious syphilis. In these cases contact information should be obtained for a period of 3 to 6 months preceding the diagnosis.

C. Follow-up

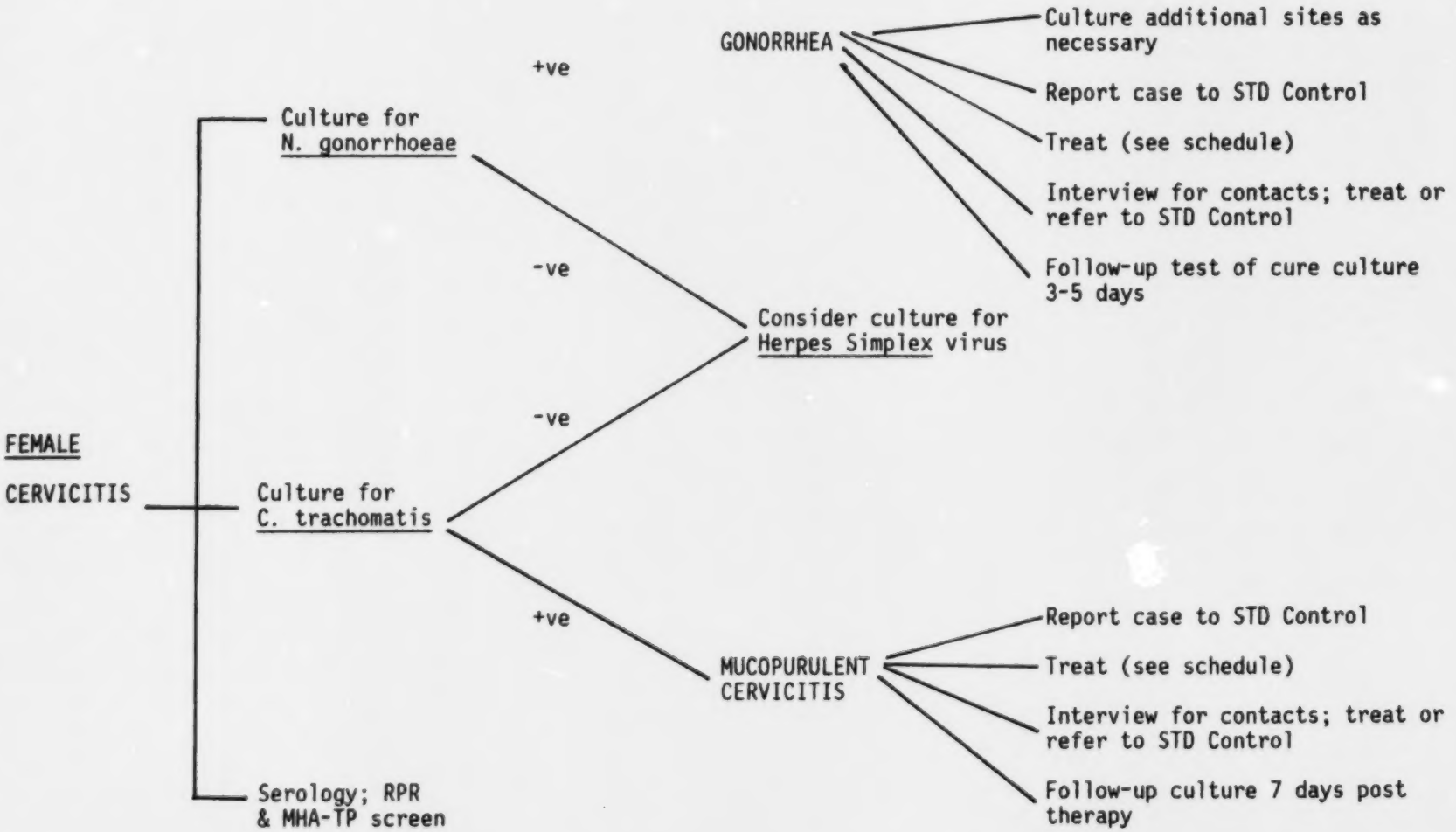
Periodic serologic surveillance is required to ensure an adequate therapeutic response by assessing the quantitative RPR. It is generally recommended that serology be repeated 1, 3, 6 and 12 months post therapy.

FLOW CHART I

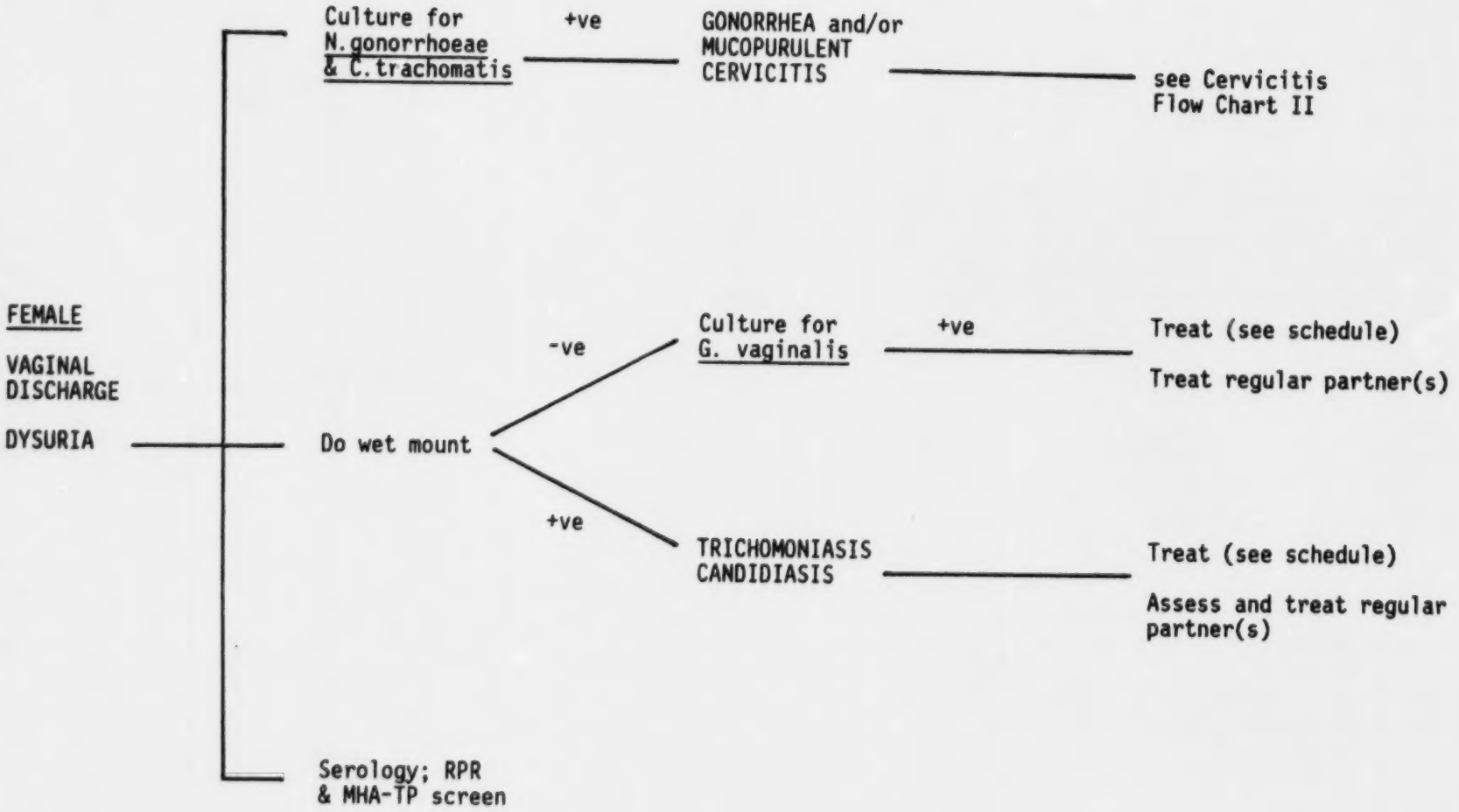

MALE
URETHRAL DISCHARGE
Gram-stained smear with >5 PMN's*
+ve diplococci
As for positive culture
-ve diplococci
NON-GONOCOCCAL URETHRITIS
Culture for C. trachomatis and/or Ureaplasma urealyticum (optional)
Treat (see schedule)
Report case to STD Control
Interview for contacts and treat
Follow-up one week post therapy
-ve
Urethral culture for N. gonorrhoeae
+ve
GONORRHEA
Treat (see schedule)
Report case to STD Control
Interview for contacts and treat; or refer to STD Control
Follow-up: 3-5 days test of cure cultures of all positive sites
+ve
Culture other sites as necessary for N. gonorrhoeae
Serology; RPR & MHA-TP Screen

* Polymorphonuclear leucocyte

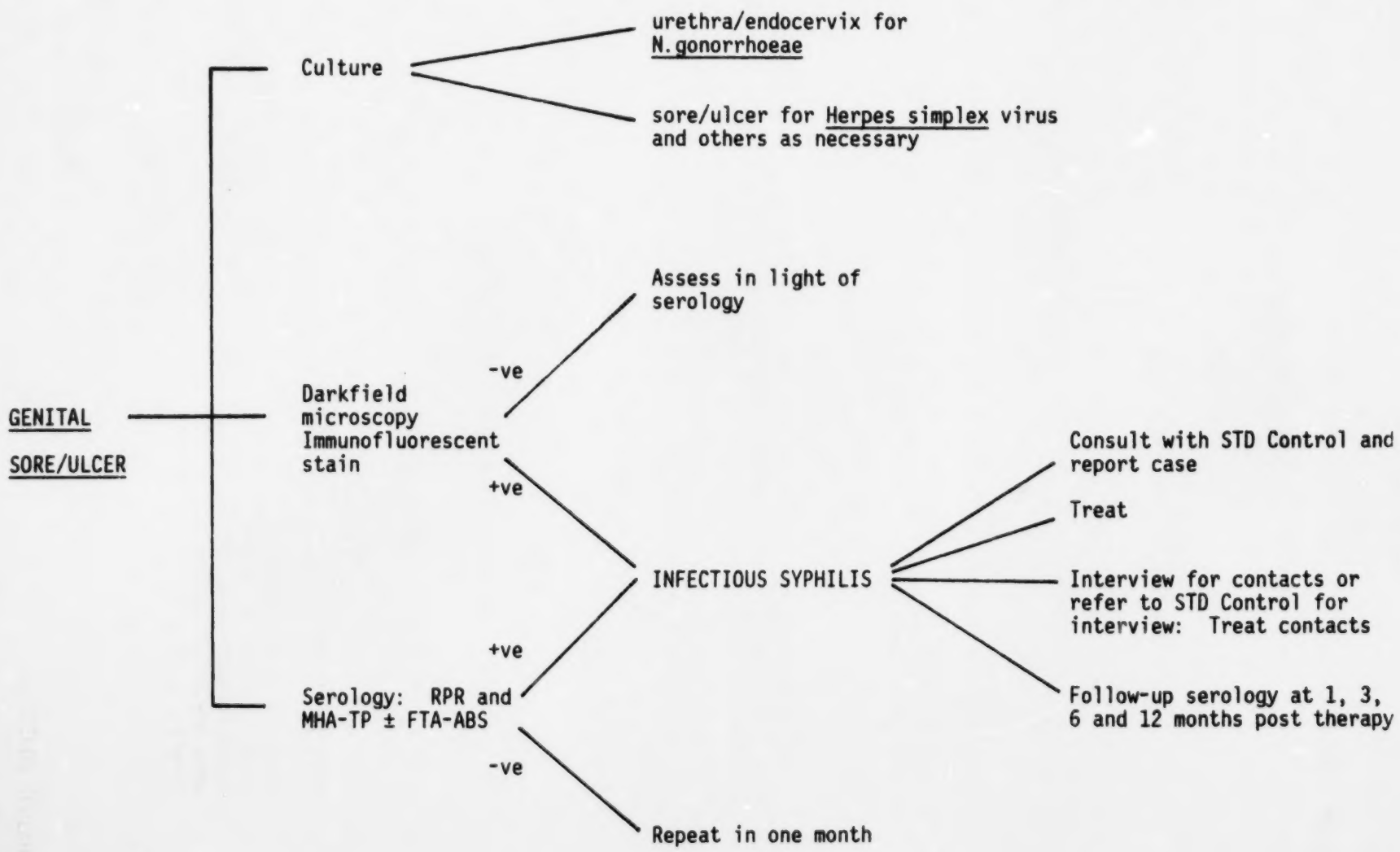
FLOW CHART II



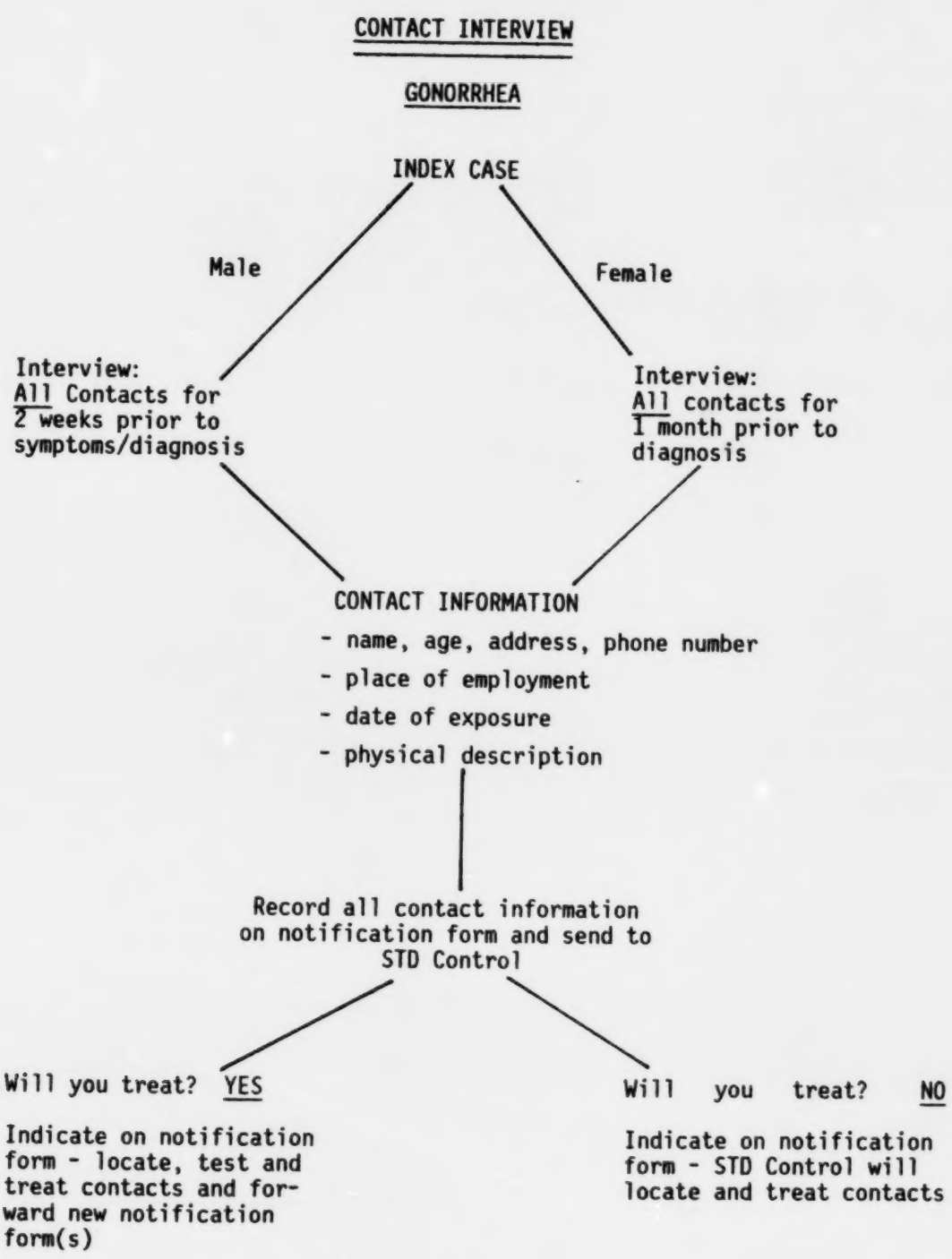
FLOW CHART III



FLOW CHART IV


GENITAL SORE/ULCER
Culture
urethra/endocervix for N. gonorrhoeae
sore/ulcer for Herpes simplex virus and others as necessary
Darkfield microscopy Immunofluorescent stain
-ve
Assess in light of serology
+ve
INFECTIOUS SYPHILIS
Consult with STD Control and report case
Treat
Interview for contacts or refer to STD Control for interview: Treat contacts
Follow-up serology at 1, 3, 6 and 12 months post therapy
Serology: RPR and MHA-TP ± FTA-ABS
+ve
-ve
Repeat in one month

FLOW CHART V


CONTACT INTERVIEW
GONORRHEA
INDEX CASE
Male
Female
Interview:
All Contacts for
2 weeks prior to
symptoms/diagnosis
Interview:
All contacts for
1 month prior to
diagnosis
CONTACT INFORMATION
- name, age, address, phone number
- place of employment
- date of exposure
- physical description
Record all contact information
on notification form and send to
STD Control
Will you treat? YES
Indicate on notification
form - locate, test and
treat contacts and for-
ward new notification
form(s)
Will you treat? NO
Indicate on notification
form - STD Control will
locate and treat contacts

A. Gonorrhea

	PREFERRED TREATMENT	ALTERNATIVE TREATMENT
urethral cervical	Ampicillin 3.5 g po STAT or Amoxicillin 3 g po STAT **PLUS** Probenecid 1 g followed by Tetracycline HCl 500 mg qid x 7 days	Aqueous procaine penicillin G 4.8 mu IM **PLUS** probenecid 1 g po followed by tetracycline 500 mg qid x 7 days **OR** Tetracycline 500 mg po qid x 7 days
rectal - female - male	As for urethral/cervical Aqueous procaine penicillin G 4.8 mu IM **PLUS** probenecid 1 g po	Spectinomycin 2 g IM STAT Spectinomycin 2 g IM STAT
pharyngeal	Aqueous procaine penicillin G 4.8 mu IM **PLUS** probenecid 1 g po	Tetracycline 500 mg po qid x 7 days
pelvic inflammatory disease - outpatient - hospitalized patients	As for urethral/cervical but continue tetracycline 500 mg po qid x 14 days Cefoxitin 2 gms IV q6h **PLUS** tetracycline 500 mg q6h for a minimum of 4 days and at least 48 hours after improved followed by tetracycline 500 mg qid to complete 14 days total therapy	As for urethral/cervical but substitute erythromycin base 500 mg po qid x 14 days for tetracycline
epididymitis/orchitis	As for pelvic inflammatory disease - outpatient	As for pelvic inflammatory disease - outpatient
disseminated gonococcal infection - bacteremia - arthritis/dermatitis	Crystalline penicillin G 10-12 mu/day IV for at least 3 days followed by ampicillin 500 mg po qid to complete a 7-10 day treatment period **OR** Ampicillin 3.5 g or amoxicillin 3 g with probenecid 1 g STAT **PLUS** ampicillin 500 mg po qid x 7-10 days	Cefoxitin 1 g IV q6h x 7-10 days
ophthalmia - neonates - adults	Crystalline penicillin G 100,000 u/kg/day IV in 4 divided doses x 7 days **PLUS** saline irrigation Crystalline penicillin G 10 mu/day IV x 5 days **PLUS** saline irrigation	Cefoxitin 1 g or cefotaxime 500 mg IV q6h x 5 days **PLUS** saline irrigation

	PREFERRED TREATMENT	ALTERNATIVE TREATMENT
*children < 45 kg - urethral - cervical - rectal	Amoxicillin 50 mg/kg po STAT **PLUS** probenecid 25 mg/kg po (max 1 g) **OR** Aqueous procaine penicillin G 100,000 u/kg STAT **PLUS** probenecid (as above)	Spectinomycin 40 mg/kg IM STAT
penicillinase-producing Neisseria gonorrhoeae - urethral - cervical - rectal	Spectinomycin 2 g IM STAT followed by tetracycline 500 mg qid x 7 days	Cefoxitin 2 g IM STAT **PLUS** probenecid 1 g po followed by tetracycline 500 mg qid x 7 days
- pharyngeal	Cotrimoxazole* 9 tablets daily x 5 days taken as a single daily dose *cotrimoxazole = sulfamethoxazole 400 mg/trimethoprim 80	Ceftriaxone 250 mg IM STAT

All recent sexual contacts must be located, examined, cultured and offered therapy. All patients should return 3 to 5 days after completion of therapy for re-evaluation to ensure efficacy of antimicrobial therapy and to have follow-up cultures obtained from previously infected sites.

All cases must be reported to the local STD control authorities.

If incubating syphilis is a concern aqueous procaine penicillin G should be utilized. Ampicillin, amoxicillin and tetracycline may not be effective in aborting syphilis. Long-lasting tetracycline analogs, particularly doxycycline, may be used in place of tetracycline.

PREGNANCY

The penicillins and probenecid are safe during pregnancy. Tetracycline and cotrimoxazole should be avoided. In penicillin allergic patients, spectinomycin may be used although the Health Protection Branch states that safety for use during human pregnancy has not yet been established. Erythromycin base may be used in the same dosage as tetracycline but it is less effective and tests of cure are extremely important when this drug is utilized.

ORAL PENICILLIN AND LONG ACTING FORMS OF PENICILLIN (BENZATHINE PENICILLIN G) HAVE NO PLACE IN THE TREATMENT OF GONORRHEA.

*** Advice regarding therapy for infants born to mothers with gonococcal infection should be sought from Sexually Transmitted Disease Control.**

B. Non-gonococcal urethritis/Mucopurulent cervicitis (C.trachomatis, U. urealyticum)

	PREFERRED TREATMENT	ALTERNATIVE TREATMENT
urethral cervical rectal	Tetracycline HCl 500 mg po qid for at least 7 days	Erythromycin base 250 mg po qid x 14 days or 500 mg qid x 7 days
epididymitis/orchitis	Tetracycline HCl 500 mg qid for 14 days	Erythromycin base 500 mg po qid x 14 days
proctitis	Tetracycline HCl 500 mg po qid x 14 days	Erthromycin base 500 mg po qid x 14 days
pelvic inflammatory disease - outpatient	Tetracycline HCl 500 mg po qid x 14 days	Erythromycin base 500 mg po qid x 14 days
neonates - ophthalmia - pneumonia	Erythromycin syrup 50 mg/kg/day in 4 divided doses x 14 days Erythromycin 10 mg/kg IV qid for at least 21 days OR Erythromycin syrup 50 mg/kg/day in 4 divided doses for at least 21 days (the optimal duration for therapy has not been established)	Erythromycin 10 mg/kg IV qid x 14 days
lymphogranuloma venereum	Tetracycline HCl 500 mg po qid x 14 to 21 days	Sulfamethoxazole 1 g po bid x 14 to 21 days OR Erythromycin 500 mg po qid x 14 to 21 days

Doxycycline and minocycline are effective and may be used in place of tetracycline. Patient compliance may be improved when these drugs are utilized due to their bid dosages. The tetracyclines are contraindicated during pregnancy.

Recurrent NGU may be due to failure to treat the sexual partners. Patients with persistent urethritis should be evaluated for less common causes of urethritis such as trichomonas.

Ophthalmia is adequately treated with oral and intravenous erythromycin and there is no evidence that topical antibiotics are required.

C. Syphilis

	PREFERRED TREATMENT	ALTERNATIVE TREATMENT
primary secondary latent of less than 1 year's duration	Benzathine penicillin G 2.4 mu IM at a single session OR Aqueous procaine penicillin G 600,000 u IM daily x 8 days	Tetracycline HCl 500 mg po qid x 15 days
latent of more than 1 year's duration cardiovascular	Benzathine penicillin G 2.4 mu IM weekly x 3 weeks OR Aqueous procaine penicillin G 600,000 u IM daily x 15 days	Tetracycline HCl 500 mg po qid x 30 days
neurosyphilis	crystalline penicillin G 3-4 mu IV q4h for at least 10 days	
congenital syphilis - normal CSF - abnormal CSF	Benzathine penicillin G 50,000 u/kg IM at a single session Crystalline penicillin G 50,000 u/kg IV q12h x 10 days	

Pregnancy	less than 16 weeks gestation	greater than 16 weeks gestation
- primary - secondary - latent of less than 1 year's duration	Benzathine penicillin G 2.4 mu IM at a single session	Aqueous procaine penicillin G 600,000 u IM daily x 8 days
- latent of more than 1 year's duration	Benzathine penicillin G 2.4 mu IM weekly x 3 weeks	Aqueous procaine penicillin G 600,000 u IM daily x 15 days

All sexual contacts must be located, examined and treated when the index case is suffering from infectious syphilis.

Pregnant women with syphilis, who have not previously been treated, should receive penicillin in doses appropriate to the stage of disease. Re-treatment during pregnancy is unnecessary unless there is clinical or serologic evidence of new infection. Syphilis serology should be periodically re-examined during pregnancy.

Erythromycin, in the same dosage as tetracycline, should **ONLY** be used in patients allergic to both penicillin and tetracycline or in penicillin allergic pregnant women. The efficacy of this regimen has not been well established.

Examination of the cerebrospinal fluid is mandatory to establishing the diagnosis of neurosyphilis.

Individuals should be encouraged to return for repeat serology, 1,3,6,12 & 24 months following therapy. Follow up is particularly important in patients treated with antibiotics other than penicillin.

D. Vaginitis

	PREFERRED TREATMENT	ALTERNATIVE TREATMENT
candidiasis	Clotrimazole 100 mg intravaginally qhs x 6 days OR Miconazole 2% cream 5 g intravaginally qhs x 7 days	Nystatin 100,000 units intravaginally qhs x 14 days
trichomoniasis	Metronidazole 2 g po STAT OR 250 mg po tid x 7 days* Clotrimazole 100 mg intravaginally qhs x 6 days	
non-specific (Gardnerella vaginalis)	Metronidazole 500 mg po bid x 7 days*	Ampicillin 500 mg po qid x 7 days

Sexual transmission of these infections may be epidemiologically significant and therefore simultaneous treatment of regular sexual partners may be important.

*Metronidazole is contraindicated during pregnancy. Patients administered this medication must be warned of the possibility of an Antabuse-like reaction occurring if alcohol is ingested during the course of therapy.

E. Chancroid

	PREFERRED TREATMENT	ALTERNATIVE TREATMENT
	Erythromycin 500 mg po qid OR Cotrimoxazole* 160/800 mg po bid for a minimum of 10 days or until ulcer and/or lymph node is healed *trimethoprim/sulfamethoxazole	

F. Scabies/Pubic lice

	PREFERRED TREATMENT	ALTERNATIVE TREATMENT
- in pregnancy	Gamma benzene hexachloride 1% (gbh) applied thinly to all areas of the body from the neck down and washed off thoroughly in 12-24 hours. Crotamiton 10% (Eurax) applied to entire body from neck down, nightly for 2 nights and washed off thoroughly 24 hrs. after second application	

V. COMMON SEXUALLY TRANSMITTED DISEASE SYNDROMES

A. Urethral Discharge - Male

When a gram stain is not immediately available but cultures have been obtained the patient may be treated with:

ampicillin 3.5 g or amoxicillin 3 g p.o. STAT plus probenecid 1 g p.o. followed by tetracycline 500 mg qid x 7 days

B. Cervicitis

The following recommendations should only be utilized in patients requiring immediate therapy where laboratory investigations have been carried out but are not immediately available:

ampicillin 3.5 g or amoxicillin 3 g p.o. STAT plus probenecid 1 g p.o. followed by tetracycline (erythromycin base must be substituted in pregnancy) 500 mg qid x 7 days

C. Vaginitis Without Cervicitis

In women presenting with a vaginal discharge without cervicitis when a microscope is not available to examine the discharge for Candida albicans and Trichomonas vaginalis, it is suggested that the patient be started on:

clotrimazole 100 mg intravaginally nightly for 6 days or until a definitive diagnosis is made

D. Acute Pelvic Inflammatory Disease

Cultures must be obtained prior to the initiation of antimicrobial therapy and the patient assessed as to the need for hospitalization. Patients should be hospitalized when the diagnosis is uncertain, surgical emergencies such as appendicitis or ectopic pregnancy cannot be ruled out, a pelvic mass is present, the patient is pregnant, the patient is severely ill or unable to tolerate outpatient management or the patient has failed to respond to outpatient therapy.

ampicillin 3.5 g orally or amoxicillin 3 g orally or cefoxitin 2 g I.M. plus probenecid 1 g followed by tetracycline 500 mg orally qid x 14 days

The patient must be reassessed in 48 to 72 hours and if there is no improvement hospitalization should be considered and the institution of combination antimicrobial therapy.

If an intrauterine device is in place, removal is suggested after antimicrobial therapy has been initiated.

E. Acute Epididmyitis/Orchitis

The following regimen should only be utilized if a microscope is not available for gram stain and one must rely on the reporting of cultures:

ampicillin 3.5 g or amoxicillin 3 g p.o. STAT plus probenecid 1 g p.o. followed by tetracycline 500 mg qid x 10 days

F. Genital Ulcer (SYPHILIS AND HERPES MUST BE RULED OUT)

Appropriate laboratory investigations must be carried out. If the lesions appear secondarily infected cotrimoxazole 160/800 mg bid may be utilized until the diagnosis is confirmed. Cotrimoxazole is the only antibiotic available which will not alter syphilis serology and yet will be effective in the majority of secondarily infected genital ulcers.

If the diagnosis of the genital lesion is in question one should consider referring the patient to an appropriate physician or agency.

ACQUIRED IMMUNODEFICIENCY SYNDROME: AIDS

AIDS is a disease which was unrecognized in North America prior to 1980. Although a relatively new disease, reported cases are increasing at an alarming rate in the western world. Primary transmission of this infection in the western world is through sexual contact and it is therefore appropriate to include information in this manual.

I. ETIOLOGY

Human T-cell lymphotropic virus - HTLV III - is in all likelihood the cause of AIDS. Also known as the lymphadenopathy-associated virus (LAV), HTLV III belongs to the group of retroviruses; HTLV I and HTLV II have previously been associated with certain human cancers and leukemias. Therefore this etiologic agent does not represent a new or different virus but rather one that is a member of a group that has been studied for several years.

HTLV III demonstrates a selective tropism for T-lymphocytes of the T_4 (helper/inducer) phenotype, exerting a cytopathic effect on these target cells and eventually leading to the profound immunosuppression characteristic of AIDS.

The virus has been recovered from peripheral blood lymphocytes, semen, tears, breast milk, urine, and saliva of patients with AIDS or AIDS-related complex (ARC). HTLV III antibody seropositivity has also been demonstrated in a significant majority of patients with AIDS or ARC.

II. PATHOLOGY

Infection takes place following transmission of the virus through intimate sexual contact or transfusion of blood or blood products. Due to this essentially parenteral route of transmission distinct high risk groups have been identified. These are male homosexuals/bisexuals, particularly those who practise receptive anal intercourse and have multiple sexual partners, intravenous drug abusers, hemophiliacs and transfusion recipients. It is recognized that the virus can also be transmitted in heterosexual relationships and appears capable of passing the placental barrier.

It is well recognized that a broad spectrum of conditions is associated with HTLV III infection.

A. Asymptomatic

Antibody to HTLV III has been demonstrated in a variable but significant number of asymptomatic individuals in the high risk groups. At this point the significance of seropositivity in an asymptomatic person is unknown but until shown to be otherwise all HTLV III antibody reactive individuals should be considered potentially infectious through sexual contact and blood.

B. AIDS - Related Complex (ARC)

ARC is defined as:

The presence of 2 or more of the following symptoms/physical signs and 2 or more laboratory abnormalities for longer than 3 months in an individual who:

1. has no other cause for these abnormalities.
2. falls into a high risk group for AIDS.

As many as 20% of ARC patients may be expected to develop AIDS.

ARC manifests as symptomatic illness with a variable clinical presentation.

Patients may complain of:
- extreme malaise and fatigue
- fever and night sweats
- diarrhea

Patients can present with:
- oral candidiasis
- generalized lymphadenopathy and splenomegaly

Laboratory abnormalities are common:
- anemia
- neutropenia
- lymphopenia
- thrombocytopenia

Immunologic abnormalites may be present:
- polyclonal increase in gamma globulins
- reduction of T_4 (helper) lymphocytes
- depressed T_4/T_8 ratios
- 84 to 100% are HTLV III reactive

C. AIDS

The end stage and most severe manifestation of the illness.

A clinical diagnosis of AIDS can be made when opportunistic infections and/or unusual malignancies, ie. Kaposi's sarcoma, develop.

1. Opportunistic Infections (OI)

   a. Pneumocytis carinii pneumonia (PCP)

      The most common OI associated with AIDS, PCP frequently presents with a dry non-productive cough and progessive shortness of breath, often associated with fever and night sweats.

b. Other commonly associated OI's include:

- esophageal candidiasis
- extensive and intractable mucocutaneous herpes simplex infections
- disseminated atypical mycobacterium
- disseminated cytomegalovirus infection
- toxoplasma encephalitis
- chronic cryptosporidiosis

2. Kaposi's Sarcoma (KS)

KS usually presents in the skin with papular or indurated purplish or reddish blue lesions. Frequently disseminated involving the GI tract, lymph nodes and other organs.

III. DIAGNOSIS

A history and physical examination which consider both the lifestyle and common symptoms of AIDS or ARC should serve to identify any individuals who should be investigated more extensively for AIDS.

Many individuals are concerned that they may have the symptoms of AIDS but do not belong to a risk group or frequently misunderstand the nature of the disease. These people require education and reassurance.

However, if the physician's initial investigations would indicate a suspicion of ARC or AIDS the patient should be referred to an appropriate specialist or facility where the necessary immunological studies can be conducted and interpreted, and specimens can be obtained to determine the presence of any of the opportunistic infections.

The ELISA test for detecting antibody to HTLV III is now available. IT IS NOT A DIAGNOSTIC TEST FOR AIDS. The significance of a reactive antibody test is unknown. False positive and negative reactions do occur and interpretation of this test is extremely difficult. Presence of antibody is not synonymous with AIDS. However, if antibody is detected in an individual, in order to curtail this infection and until more is known, it must be assumed that the presence of antibody denotes an infectious state.

IV. MANAGEMENT

A. Treatment

Approaches to the care of the individuals will vary dependent upon the stage of the disease.

Patients who are antibody reactive alone require extensive education regarding the meaning of this and how it may affect their lifestyles.

There is no specific treatment available for ARC. Patients should be seen at regular intervals and their clinical status monitored as 20% may be expected to develop AIDS.

Patients with AIDS will require referral to a medical centre familiar with the investigation and treatment of this condition. Treatment of both KS and the opportunistic infections involves hospitalization and frequently the use of uncommon or investigational drugs.

Patients in all these categories will experience a substantial amount of psychological stress and this requires continual monitoring and counselling.

B. Reporting

Acquired immunodeficiency syndrome - AIDS - is a notifiable disease under the Public Health Act of Alberta. Cases are to be reported to the Director of Communicable Disease Control.

C. Education

Patients:

Education for those who have HTLV III seropositivity, ARC or AIDS will be directed towards prevention of spread of the virus.

Recommendations for health care workers and laboratory personnel involved in the care of these patients or in the handling of specimens, are available through STD Control or Communicable Disease Control.

High Risk Groups:

In order to limit the spread of the virus efforts must be directed towards prevention of infection. This involves avoiding activities that could result in spread of the virus.

It is recommended that homosexual men reduce the number of different sexual partners, utilize condoms for all sexual encounters and avoid intimate, deep (wet) kissing.

For those who abuse intravenous drugs, the risk of sharing needles should be emphasized.

As well, anyone in a high risk category must refrain from donating blood.

Public:

The greatest amount of education needs to be directed toward the general public. The constant media focus has helped to create a hysteria about AIDS. Rumours and myths abound, particularily about the transmissibility of the disease. The health care professional should offer reasonable, accurate information which can serve to allay fears and increase awareness.

APPENDIX I

BILLING PROCEDURE

Under both the Communicable Diseases Regulations of July 31, 1985 and the Alberta Health Care Insurance Plan, provision is made for reimbursement of primary care physicians for the diagnosis and treatment of patients with notifiable sexually transmitted diseases.

A Notification of Sexually Transmitted Disease form must be sent to STD Control.

Following are the billing options:

1. Directly to Alberta Health Care: The usual Alberta Health Care Insurance Commission billing procedure may be utilized. A statement will be sent to the patient unless the claim form is clearly marked CONFIDENTIAL.

2. Direct billing to STD Control. This procedure should be followed when billing for patients without Alberta Health Care Coverage (ie. out of province patients) or where billing of AHCIC is undesired. In this case an AHCIC statement is not forwarded to the patient's household.

   a. Upon receipt of the notification form, STD Control will assign an account number. This number can be found in the upper right hand corner of the blue copy returned to you.

   b. On the AHCIC claim form omit the patient's name, address, AHCIC registration number and diagnosis. Insert the STD Control account number under Diagnosis/Treatment.

   c. Submit the claim form to STD Control for reimbursement.

      NOTE: For convenience, the physician may choose to forward the claim form with the notification form. The account number will be inserted on the form in this office and forwarded to the accounting department for payment.

Reimbursement for the care of both insured and non-insured patients will be according to the fee schedule allowed by the Alberta Health Care Insurance Commission.

SAMPLE CLAIM FORM I

Directly to Alberta Health Care/Confidential

Alberta

HOSPITALS AND MEDICAL CARE
HEALTH CARE INSURANCE PLAN

PAYMENT TO PRACTITIONER CLAIM

FORM NO 4444

ELITE PICA ← TYPEWRITER ALIGNMENT → ELITE PICA

PRACTITIONER NO: 1234567

PRACTITIONER NAME: Dr. J. Smith

CLAIM NO: H28011200

PATIENT'S A.H.C.I.P. NO: 987654321

PATIENT'S SURNAME: DOE

INITIALS: J M

SEX M F

W.C.B.

	DIAG CODE	LOC	CALLS	BENEFIT CODE	FEE SUBMITTED	AMT. BILLED TO PATIENT	SERVICE START DATE DAY MO YR	END DATE DAY MO	DELETE	A.H.C.I.P. USE ONLY PAYMENT AMT	EXPLAN CODES
1			as per schedule				04 01 86				
2											
3											
4											
5											
6											
7											
8											
9											

REFERRING PRACTITIONER NO

REFERRING PRACTITIONER NAME

CHART NO (OPTIONAL)

HOSP NO

LINE FROM TIME OF DAY TO

LINE FROM TIME OF DAY TO

DIAGNOSIS / TREATMENT: Gonorrhea

CONFIDENTIAL

DATE: DAY 06 MO 01 YR 86

I DECLARE THAT THIS IS A CORRECT STATEMENT OF SERVICES PROVIDED BY ME OR UNDER MY DIRECT SUPERVISION IN ACCORDANCE WITH THE ALBERTA HEALTH CARE INSURANCE ACT

J. Smith, M.D.

AUTHORIZED SIGNATURE

AHC 1404 (04/84)

SAMPLE CLAIM FORM II

Direct billing of STD Control

Alberta

HOSPITALS AND MEDICAL CARE
HEALTH CARE INSURANCE PLAN

PAYMENT TO PRACTITIONER CLAIM

FORM NO 4444

ELITE PICA ← TYPEWRITER ALIGNMENT → ELITE PICA

PRACTITIONER NO: 1234567

PRACTITIONER NAME: Dr. J. SMITH

CLAIM NO: H28011196

PATIENT'S A.H.C.I.P. NO

PATIENT'S SURNAME

INITIALS

SEX M F: F

W.C.B

	DIAG CODE	LOC	CALLS	BENEFIT CODE	FEE SUBMITTED	AMT. BILLED TO PATIENT	SERVICE START DATE DAY MO YR	END DATE DAY MO	DELETE	AHCIP USE ONLY PAYMENT AMT	EXPLAN CODES
1			As per schedule				04 0186				
2											
3											
4											
5											
6											
7											
8											
9											

REFERRING PRACTITIONER NO

REFERRING PRACTITIONER NAME

CHART NO (OPTIONAL)

HOSP NO

LINE FROM TIME OF DAY TO

LINE FROM TIME OF DAY TO

DIAGNOSIS : TREATMENT

86/1234

AHC 604 (04/84)

DATE: DAY 06 MO 01 YR 86

I DECLARE THAT THIS IS A CORRECT STATEMENT OF SERVICES PROVIDED BY ME, OR UNDER MY DIRECT SUPERVISION, IN ACCORDANCE WITH THE ALBERTA HEALTH CARE INSURANCE ACT

G. Smith, M.D.

AUTHORIZED SIGNATURE

APPENDIX II

RESOURCES

The following resources are available through the Education office of STD Control.

Patient Literature

1. Sexually Transmitted Diseases - overview pamphlet
2. Pamphlet series:
   a. Gonorrhea
   b. NGU
   c. Vaginitis
   d. Herpes
   e. Venereal Warts
   f. Crabs
3. AIDS - federal publication pamphlet

Professional Education

1. Resource Library
   - complete reference library of current journal articles and publications on sexually transmitted diseases
   - a variety of audio-visual materials
2. Education Personnel
   - available to provide presentations to health care professionals, schools and public groups
   - will provide disease information to patients either by telephone or booked visit to the education office

The following publications are recommended as desk references on sexually transmitted diseases:

Diagnosis and Treatment of SEXUALLY TRANSMITTED DISEASES

Edited by William M. McCormack. Copyright 1983 by John Wright PSG Inc; 545 Great Road, Mittleton Mass., USA, 01460.

Sexually Transmitted Diseases

Edited by K.K. Holmes, et al. Copyright 1984 by McGraw-Hill, Inc; Toronto

Alberta

SOCIAL SERVICES AND COMMUNITY HEALTH

NOTIFICATION OF SEXUALLY TRANSMITTED DISEASE

CONFIDENTIAL

OFFICE USE ONLY	
ACCOUNT NO.	
AMPICILLIN	TETRACYCLINE
PROBENECID	ERYTHROMYCIN
PROCAINE PENICILLIN G	
BENZATHINE PENICILLIN	

PATIENT'S SURNAME (PLEASE PRINT)

MAIDEN NAME (IF APPLICABLE)

GIVEN NAMES

ADDRESS

DATE OF BIRTH			SEX		MARITAL STATUS					
DAY	MO	YR	M	F	MAR	SING	WID	DIV	SEP	C/LAW

IF MARITAL PARTNER IS A SEXUAL CONTACT PLEASE INCLUDE IN CONTACT INFORMATION BELOW.

RACIAL ORIGIN				
CAUCASIAN	N AM IND	NEGRO	ORIENTAL	OTHER

PLACE OF WORK AND OCCUPATION

DISEASE ▶ ☐ NON-GONOCOCCAL URETHRITIS/ MUCOPURULENT CERVICITIS ☐ GONORRHEA ☐ SYPHILIS ☐ CHANCROID ☐ LYMPHOGRANULOMA VENEREUM

CLINICAL FINDINGS (PLEASE DESCRIBE)

DURATION OF SYMPTOMS

1 LAB TESTS		2	3 CULTURE SITES				4
BLOOD TEST FOR SYPHILIS TAKEN ☐ YES ☐ NO		URETHRAL SMEAR	URETHRA	ENDOCERVIX	PHARYNX	RECTUM	OTHER INVESTIGATIONS (PLEASE DESCRIBE)
	POSITIVE						
	NEGATIVE						
	PENDING						

TREATED 19

MEDICATION AND DOSAGE

☐ NOT TREATED

PREVIOUS S.T.D. TREATMENT ☐ YES ☐ NO

DISEASE

DATE 19

PHYSICIAN OR HOSPITAL (PLEASE PRINT)

ADDRESS

DATE 19

PLEASE OBTAIN CONTACT INFORMATION AS OUTLINED BELOW

NAME OF CONTACT

MAIDEN NAME (IF APPLICABLE)

ADDRESS

PHONE

SEX M / F	AGE	MARITAL STATUS	MAR	SING	WID	DIV	SEP	C/LAW

DATE OF EXPOSURE 19

TOWN/CITY OF EXPOSURE

PHYSICAL FEATURES OF CONTACT

CAUCASIAN	N AMER INDIAN	ORIENTAL	NEGRO	OTHER

OTHER DISTINGUISHING FEATURES

PLACE OF WORK

OCCUPATION

WILL YOU ARRANGE FOR TREATMENT OF THIS CONTACT? ☐ YES ☐ NO

NAME OF CONTACT

MAIDEN NAME (IF APPLICABLE)

ADDRESS

PHONE

SEX M / F	AGE	MARITAL STATUS	MAR	SING	WID	DIV	SEP	C/LAW

DATE OF EXPOSURE 19

TOWN/CITY OF EXPOSURE

PHYSICAL FEATURES OF CONTACT

CAUCASIAN	N AMER INDIAN	ORIENTAL	NEGRO	OTHER

OTHER DISTINGUISHING FEATURES

PLACE OF WORK

OCCUPATION

WILL YOU ARRANGE FOR TREATMENT OF THIS CONTACT? ☐ YES ☐ NO

PLEASE SEND SEPARATE NOTIFICATION FOR EACH CONTACT TREATED

DO YOU WISH: ☐ DRUG REPLACEMENT ☐ PATIENT LITERATURE ☐ NOTIFICATION FORMS ☐ TREATMENT SCHEDULE

IF YOU REQUIRE ASSISTANCE OR CONSULTATION CALL 427-2830 (COLLECT)

SSCH 332 (85/)

Mail All Copies, Sealed in the Addressed Envelope Provided